

PATENT ABSTRACTS OF JAPAN

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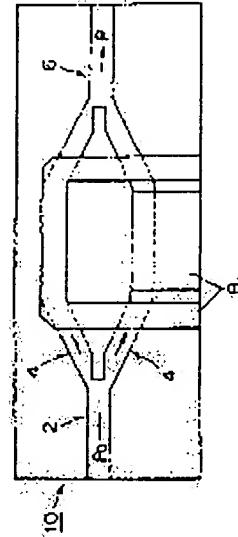
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(54) PHASE SHIFT KEYING SYSTEM USING ZEHNDER TYPE OPTICAL MODULATOR

(57) Abstract:

PURPOSE: To suppress phase imperfect modulating components by setting an offset voltage at the time of non-modulation with driving electrodes so as to approximately minimize the light output level of the Mach-Zehnder type optical modulator and changing the polarity of the driving voltage to be applied to the offset voltage according to the modulation signal, thereby imparting a change of π to the phases of light outputs.

CONSTITUTION: The Mach-Zehnder type optical modulator 10 has an input side optical waveguide structure 2, a pair of optical waveguide structures 4 for phase shifting to impart the phase change to the guided light according to the impressed electric field branched from the input side optical waveguide structure 2, an output side optical waveguide structure 6 where the optical waveguide structures 4 for phase shifting join and the driving electrodes 8 mounted to the optical waveguide structures for



phase shifting. A suitable potential difference is applied to the optical waveguide structures 4 for phase shifting and the reverse modulating electric fields are impressed to the respective optical waveguide structures 4 for phase shifting to rotate the phases of the light passing the respective optical waveguide structures 4 for phase shifting in opposite directions respectively on the phase so that the light outputs equal in any of the 0 layer and the π layer are generated. The phase imperfect modulating components are suppressed in this way and the spectral spread of the light outputs is lessened.

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